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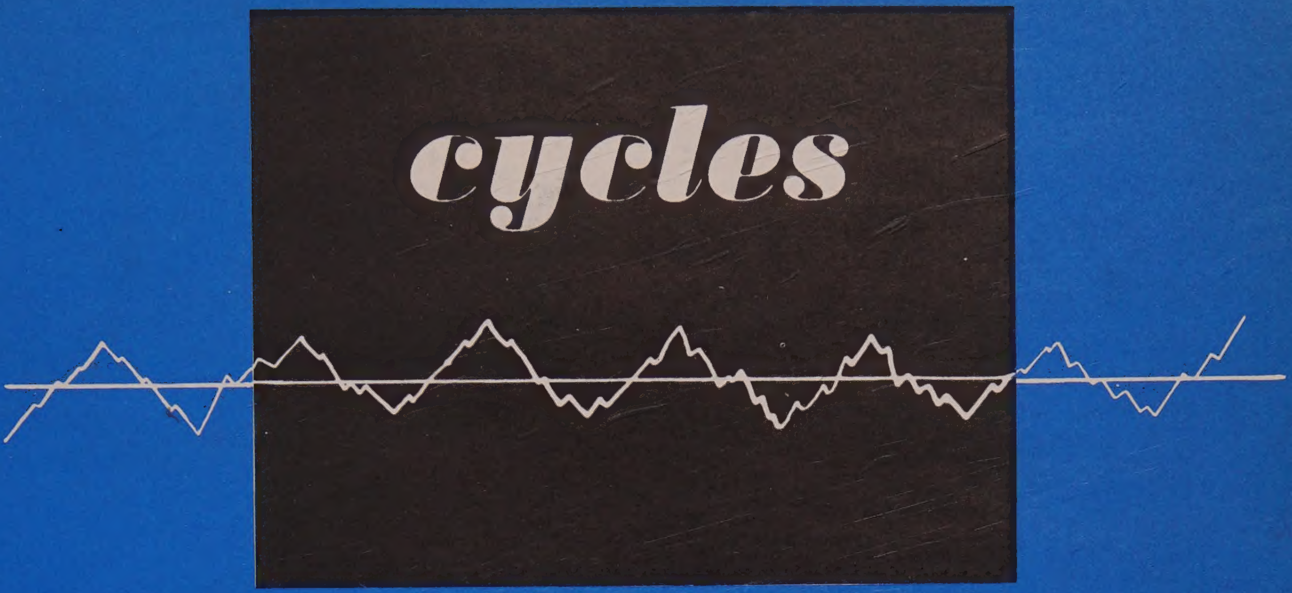

October 1959

FOUNDATION FOR THE STUDY OF CYCLES
New York, New York

CYCLES OCTOBER, 1959, VOLUME X, NUMBER 10
THE OFFICIAL BULLETIN OF THE FOUNDATION FOR THE STUDY OF CYCLES

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Program

Our program is (1) *to collect* as many examples as possible of rhythmic fluctuations in all fields of natural and social science, (2) *to measure* each of these rhythms with the greatest possible accuracy, (3) *to record* the latitude, longitude, wave length, wave shape, timing, and strength of each cycle in such a way that any qualified worker can reproduce the work and obtain the same results, and so that he can, if he wishes, take issue with the methods used by the worker to isolate, definitize, and evaluate the cycle, (4) *to stimulate* and help others to do these same things, (5) *to print* the results of all this research, (6) *to arrange*, collect, catalog, and group the cycles thus discovered and definitized, (7) *to discover the laws* which govern the operation of cycles, and (8) *to deduce* the *cause* or causes of cycles—all for the benefit of mankind.

Cycles IS PUBLISHED BY THE FOUNDATION FOR THE STUDY OF CYCLES MONTHLY AT THE FOUNDATION'S OFFICE AT EAST BRADY, PENNSYLVANIA SUBSCRIPTION RATE $10.00 A YEAR. ENTERED AS SECOND CLASS MATTER AT THE POST OFFICE AT **East Brady, Pennsylvania,** WITH ADDITIONAL ENTRY AT DEXTER, MICHIGAN. PUBLICATION OFFICE, 680 WEST END AVENUE, NEW YORK 25, NEW YORK.

Director's Letter

Dear Member:

There are many ways in addition to giving money in which you can help cycle study. Let me mention a few.

Collection of Recorded Data

Do you have, or can you get, any really long series of figures? By "really long" I mean perhaps 1,000 years or so. If so, send us a copy so that we can study them for cycles.

I refer to such things as long series of annual tree ring widths, varve thickness, numbers of earthquakes, lake levels, river flow, etc., etc.

We know that many such series exist; often we know where to go to get them. What we have lacked is enough money to do a proper job—but if, and when the money becomes available we want to have the best possible collection of basic data to work with. You can help us gather these data.

Creation of Original Data

Or you may prefer to do a more original piece of work in some particular field in which you are interested, and then furnish us with the result. A consistent daily bit of hobby work—if it is truly consistent—can result in continuous records which will add some small part to the total of human knowledge.

For example, garden bugs (the two-legged ones) can record blooming times of periodic plants.

Professor Ellsworth Huntington once gave me some Mexican iris that had two remarkable characteristics. One, they bloomed periodically—at intervals of about a week, as I remember it—and two, *all the different plants bloomed at the same time!*

What could make plants behave like this? Was it some periodic force in the environment to which all the various plants responded? If so, what could this force be? Or was it some built-in characteristic of the plant inherited from a common ancestor? But if so, how could it function with such precision?

It would be of scientific value if you would get some of these plants, number or letter each, record blooming time of each over a long period of time, and send us the records.

Then you might conduct some experiments. You might move *some* of the plants to warmer and/or cooler quarters, or to more or less light, or to longer or shorter periods of light to see if you could upset the rhythm. You might ship some of the plants to a different latitude to see if the behavior evidenced latitudinal passage. That is, to see if the cycle of the plants you sent to a friend in Florida changes phase and suddenly blooms a day or so later!

Maybe, with your help, we can run this down and thus learn more about cycles. Or you may prefer a more personal study—a study of yourself.

Find Out Your Own Cycle of Elation and Depression.

As far as investigations have gone it seems as if every man has a characteristic cycle of elation and depression. These cycles vary, according to the man, from about two weeks to about nine weeks. Generally they run about five or six weeks from one period of depression to the next.

The crux of this statement lies in the words "as far as investigations have gone." We need many more examples, and examples over long periods of time, before we have all the facts we need in connection with cycles of this sort. Besides, you can have a lot of fun, and perhaps some benefit, from finding out your own cycle.

As Donald G. Cooley (who spoke to the members of the New York Chapter last June 17th) puts it in his most interesting book *Predict Your Own Future:**

"One's mood cycle is not the simple thing that it might seem to be. The most thorough and lively discussion of its complexities of which the author is aware is that of Albert Edward Wiggam in his book *New Techniques of Happiness.* Dr. Wiggam, who himself has done more to popularize the findings of eminent psychologists than any other man, conducts a life of prodigal productiveness with a sharp eye on his fluctuations of emotional tone. His own mood cycle is 36 days long, and he remarks: 'After you chart your cycle, you will find that you can tell within three or four hours when you are plunging down into a low and when you are about to come up again for air.' Think of the usefulness of such knowledge in your daily affairs!

"The time required for you to vault from peak to peak of elation, or to plow from trough to trough

	1ST WEEK							2ND WEEK							3RD WEEK							4TH WEEK							5TH WEEK							6TH WEEK							7TH WEEK						
	S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S
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Chart for Measuring Your Mood Cycle*

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* Reprinted from Predict Your Own Future by Donald Cooley, by permission of the publishers, Wilfred Funk, Inc. Copyright 1950 by Wilfred Funk Inc.

of depression, is a personal matter. The average mood cycle runs a full course in just about five weeks, a day or two more or less either way. Strikingly enough, this is the same timing as the change from high to low in thyroid gland activity. Mood cycles as short as two weeks, and as long as seven weeks or even more, have been recorded. Young people tend to have shorter cycles.

"Temperamental extremists may be wrapped in melancholy, or bounce with ecstasy, at the respective phases of their cycle. However, this is not what the average well-balanced adult should expect. Chances are that when you are low you will merely find people more difficult, worries harder to shrug off; the sharp edge is gone from zest, you're grumpier, and you shy away from tasks calling for sustained effort. On the up side, you roll more easily with the day's punches, recover swiftly from bad news, find that jobs you've been postponing are pushovers when you tackle them, and wear your rose-colored glasses. Unless yours is a disturbingly mercurial disposition, these very general changes in feeling tone will not be exaggerated but you'll recognize them easily.

"Indeed, you have always known that some days you feel like a million and on others like thirty cents. It's only when you begin to keep a record of your moods that you realize they have a habit of regular recurrence. Outside events may knock you off the beam temporarily, but your mood cycle soon recovers its natural rhythm and gets back in the groove. The first step in taking the measure of your mood cycle is to be aware of shifts in emotional tone as they occur.

"Experts such as Dr. Hersey identify mood levels with the aid of significant questions—involving such matters as insomnia, boredom, appetite, quarrels, etc.—and with physical tests. We cannot go into the matter in so specialized a way. Fortunately, this is not strictly necessary for our purposes of home-grown prediction. The chart below gives you a simple means of measuring your mood cycle quite well.

"The mood range from 'best' to 'terrible' is, admittedly, not so exact as the graduations on a thermometer. Other phrases would serve as well, as long as you strive for instance, to distinguish between feeling bad and feeling very bad. You will have to be as objective as you can about your own emotions—a salutary thing in itself—but if you're really in doubt about how you feel, ask your wife. You aren't fooling her, much.

"A dot in the proper square each day will eventually give you a whole series of dots which, when connected by a running line, should give you a curve of definite form. It will take two or three months of daily records, at least, before you have enough curves to recognize any repetitive regularity. A five-week series is enough to cover the average mood cycle, but there is no assurance that you are average and we wouldn't dream of suggesting it. A good way to recognize the length of your cycle is to keep your daily record on graph paper and then to line up the charts side by side. Your eye will then detect the peaks and valleys of the curve. Then a little puzzle-work, lining up the curves vertically, one beneath another, until you find a match, will give you an average length of your mood cycle—a process that is simpler than its description.

"Steady-going persons may find it a little difficult to pin down their cycle, but no one can keep a chart of this sort for any length of time without making the important discovery that he's not precisely the same person—emotionally—day in and day out. In keeping track of your daily mood level, make a record of exceptional events that happen to you, red-letter and black-letter days. An unexpected bonus check will please you, and a dressmaker's bill you hate to show your husband will depress you, regardless of the phase of your mood cycle. But oddly enough when you're 'up,' bad news won't rock you quite so far back on your heels, and when you're 'down,' a wonderful break won't exactly make you walk on air. Of course you react to good or bad happenings, but the overall level of your happiness state modifies your responses.

"All persons will find that their moods do fluctuate, and very definitely change the color of everyday events. However, people of exceptionally stable dispositions, encroaching on the phlegmatic, may not be able to identify their cycle as a specific number of days long. Most of us can come pretty close to it. Certainly we can anticipate in a general way that the next week or two is scheduled to be a slightly under-par or over-par period. If you are able to mark off your cycle quite definitely (five weeks is about average) you can not only project your future state of feeling into the next month, but can clock your emotions a year or more ahead, with running revisions."

Mr. Cooley then goes on for four or five pages to tell you how to put this information to use, but I'll let you go direct to his book for that information. Here we are concerned merely with cycle study. From this standpoint the important thing is that the record, over a long period of time, be sent in to cycle headquarters.

Find Out Your Own Cycle of Creativity.

Dr. J. H. Douglas Webster has studied the creativity of many great writers, musicians, scientists. He finds that, normally, creativeness upsurges at intervals of about 7.6 months (33 weeks); sometimes half of this interval (16½ weeks).

If you are creative and if you keep a diary, or if your creative works are dated, see if you can find *your* cycle of creativity.

There are many ways in which you can help cycle study. But when you have results be sure to send the facts into us so that they can be added to the store of cycle knowledge.

Cordially yours,

Edward R. Dewey

Director

Research by Staff

WHAT'S AHEAD FOR HOG PRICES?

A SHORT TERM VIEW

By G. Shirk

We have isolated a 38.2-month cycle in the price of hogs. A review of this cycle (after it is combined with the ideal seasonal pattern and an underlying trend) leads to the conclusion that the recent steep decline in hog prices will bottom out in 1959, and that 1960 as a whole will see higher hog prices than 1959, if the 38.2 cycle continues.

The broken line on the chart below traces the course of the combination of the two cycles and trend. The solid line diagrams the actual price of hogs.

The figures that we used for this study were the price of hogs, wholesale, all grades, at Chicago (dollars per 100 pounds) by months. Although Figure 1 gives only the most recent picture (beginning with July 1957) the work on which the 38.2-month cycle was based began with January, 1901.

Figure 2 on the next two pages is a picture of the record of hog prices that we used. Before we started the work which lead to the 38.2-month cycle, the Department of Agriculture supplied us with the figures back through 1901. As this was being written, we received an additional tabulation from the Department of Agriculture which takes the record of the price of *heavy* hogs back to January, 1860, by months.

We used the price of *all grades* of hogs in our work, but we will use the *heavy* series to take the work back through 1860, on the assumption that, after all, hogs is hogs.

Although Figure 1 looks so *final*, like the last word on the subject, it is only the *latest* word on the subject. It represents, naturally, the best conclusion that we now have—but if it is possible to refine the conclusion by the inclusion of

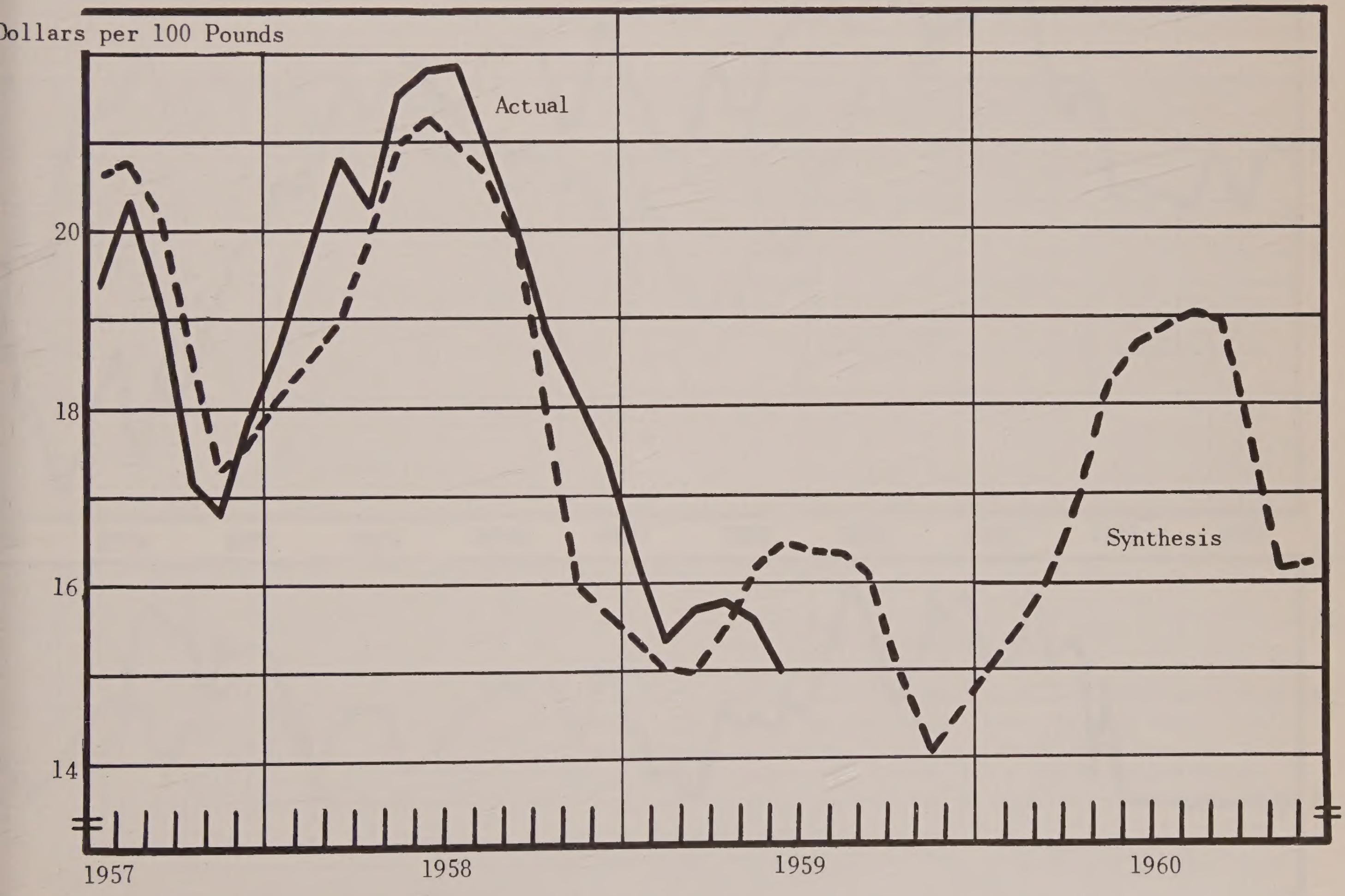


Fig. 1 The Price of Hogs—Actual vs Synthesis. The synthesis is the combination of the 12- and 38.2-month cycles and the trend.

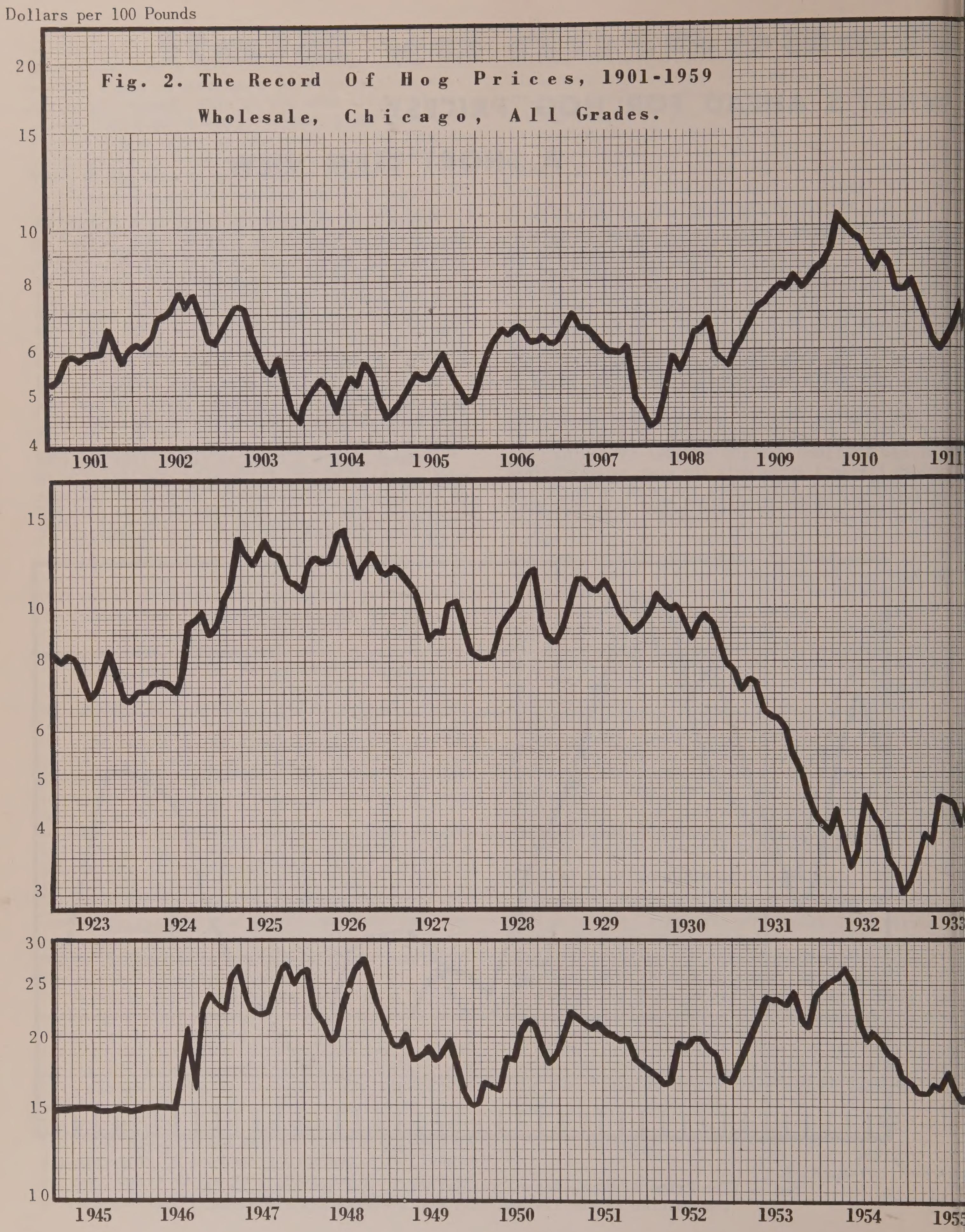
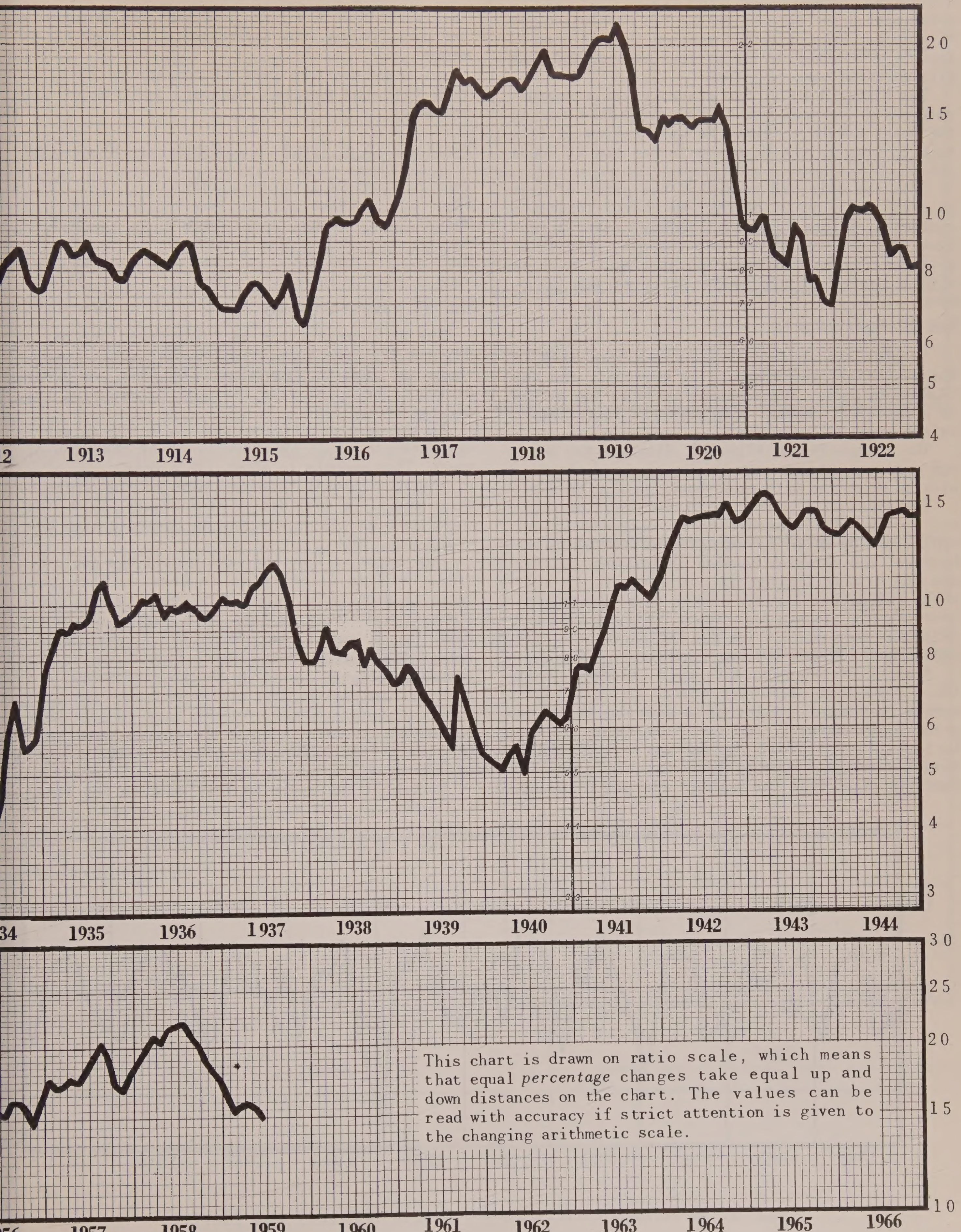


Fig. 2. The Record Of Hog Prices, 1901-1959

Wholesale, Chicago, All Grades.



This chart is drawn on ratio scale, which means that equal *percentage* changes take equal up and down distances on the chart. The values can be read with accuracy if strict attention is given to the changing arithmetic scale.

additional prior data to refine the conclusion, we will do so. Also, I should mention that we hope to include additional cycles as time passes, and that will occasion some revision.

But Figure 1 as it now stands gives a reasonable match between actual and synthesis during the short period covered. We will review it from time to time in the Round-Up to see how it comes out.

From the original record of the price of hogs as seen on Figure 2, to the end chart, actual vs synthesis, Figure 1, we went through quite a routine. Without boring you with too many details we will cover just the major points, and conclude with a review of the reliability of the 38.2-month cycle.

The 12-Month Cycle

As mentioned before, two cycles were used in the synthesis, the 12-month or seasonal, and the 38.2-month cycle. The seasonal cycle in hog prices is a matter of general knowledge—it is reflected in the price of pork chops.

The picture below, Figure 3, diagrams the average seasonal pattern as a broken line and the figures on which the pattern is based as a solid line.

The seasonal fluctuation in the price of porkers is dependable enough to be included in our synthesis. Even in so reliable a case as this, however, the relation between the average pattern and the actual figures is not perfect. In some years the actual figures behave in a manner contrary to the average experience. Observe 1951 and 1954. In other years which are not shown here, the discrepancy between the two lines is even greater.

A check of the record reveals, however, that the actual figures always revert to this ideal average seasonal cycle. This pattern obtained prior to World War I, and continues today. It is, incidentally, a truly *forced* cycle and is the direct result of the pattern of events on the farm—the fact that the porkers are mature enough to slaughter in the fall, and that, to avoid winter corn-feeding, the farmer ships the hogs off to market.

If trend for the year is considered level at 100% then the average seasonal pattern of hog prices is:

Month	% of Trend	Month	% of Trend
Jan	93.1	July	107.2
Feb	94.6	Aug	106.7
Mar	96.6	Sept	104.5
Apr	100.5	Oct	96.6
May	106.2	Nov	89.7
June	107.6	Dec	91.4

The 38.2-Month Cycle

The 38.2-month cycle is (diagrammed) on pages 226 and 227. The solid line on that chart represents the figures from which the ideal wave was derived. The ideal wave is shown by means of the zig-zag broken line.

In the original figures the cycle has an average strength of 15.6% above trend at the time of crest. This amounts to about 10% a year.

The most recent turning point of the average cycle was a low due ideally at February, 1959. The ideal wave is now on its way up toward a high due at October, 1960.

This cycle is like the little girl who could be very, very good, or could be horrid. When the cycle is good, it's very, very good. On the diagram you will observe that both during the pre-World War I, and the post-World War II periods the actual line followed the ideal line closely. The period in between is cut up by two world wars, and a major depression. One can expect serious distortion at such times. At the time of the 1930 bottom the cycle was actually upside down (and this is partly a function of the nature of the calculations.)

Currently the cycle is very much on the ideal

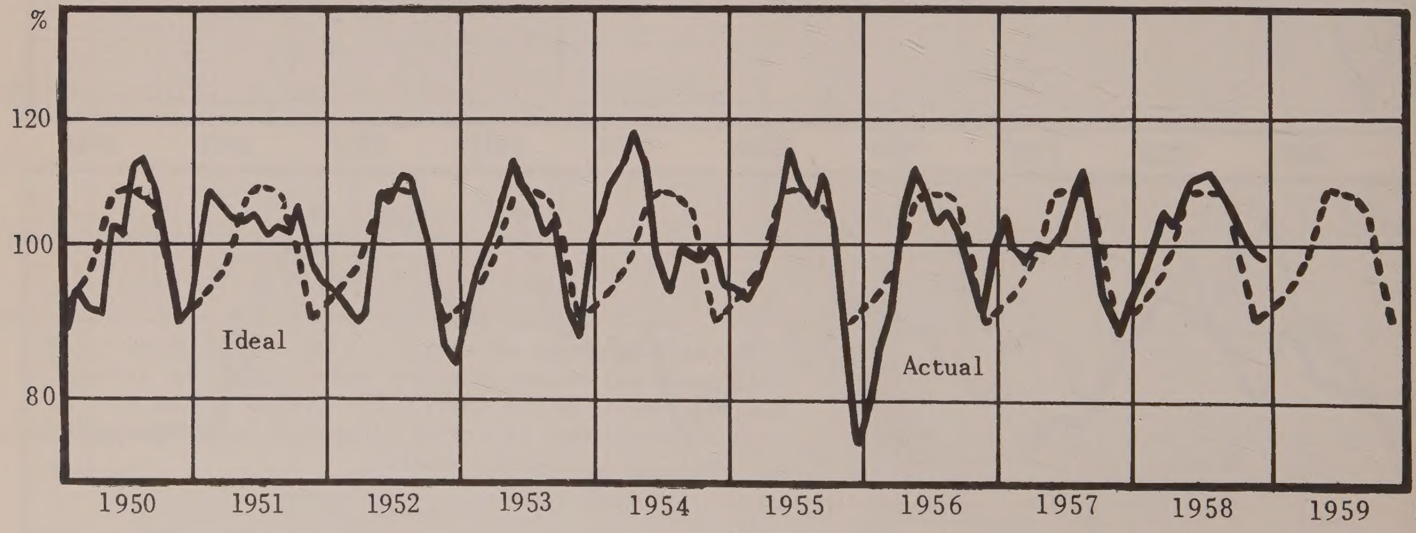


Fig. 3 The Seasonal Pattern in Hog Prices——Actual and Ideal

track, and until a decided distortion develops we can assume that it will continue.

Carrying the work back to 1860 will give us a check on the validity of length of the cycle; but finding it in the earlier data will not be a surprise. This cycle has been reported on from time to time by various researchers, although not recently.

Haas and Ezekiel in *Factors Affecting the Price of Hogs* (U.S.D.A. Bul. 1440, Nov. 1926) said, "During the period 1904 to 1915 hog prices had a steady upward trend...The general tendency of the price was to swing first above the trend and then below, each complete swing taking about three to four years."

F. C. Mills, using data from 1890 to 1925 found a 38.8-month cycle in heavy hog prices and a 38.4-month cycle in light prices. Other researchers claim varying length cycles in hog prices.

Using the rigid 38.2-length based on the 1901-1959 data and checking the turning points of this cycle against the actual price of hogs (excluding war periods) we find that in 21 out of 27 cases the actual price was higher or lower than the previous ideal turning point in accordance with the cycle pattern.

When the actual figures are used in a comparison of this sort, all other cycles and trend are ignored. The extreme and unusual severity of the 1932 depression accounts for most of the cases where the actual data does not fit the cycle pattern.

The average cycle pattern is directly based on the smoothed figures shown on Figure 6. Comparisons of the actual turning points on Figure 6 with the average cycle turning points are shown on Figures 4 and 5. The dots are plotted in terms of months before and after the ideal turning points.

For the highs, 10 of 13 turning points (excluding war) are within 9 months of the ideal, and half are within 5 months. For the lows, 11 of 13 (excluding war) are within 8 months of the ideal time.

Again, the conclusion is that when the cycle is operating it is very reliable, and that currently it appears to be an important factor in the movement of hog prices.

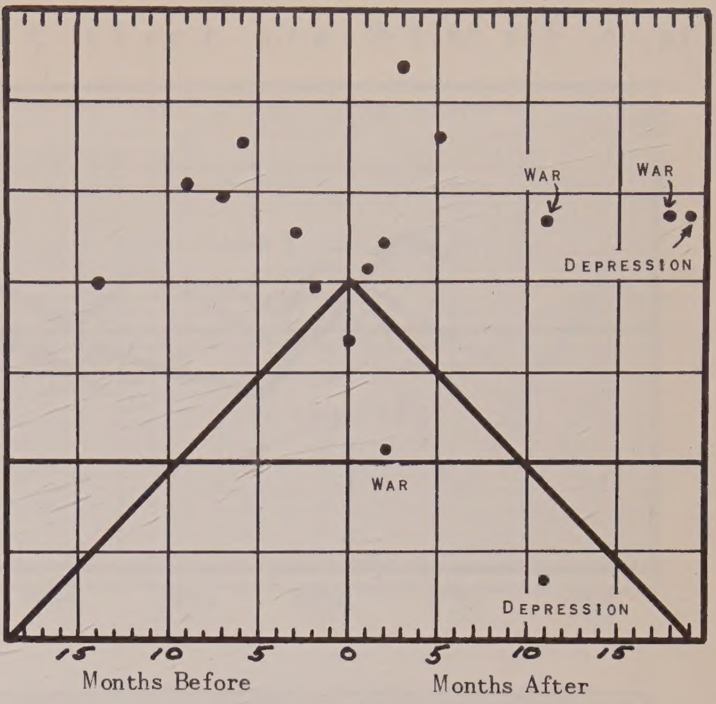


Fig. 4. A Comparison of Actual Highs with Ideal Highs (from Fig. 6)

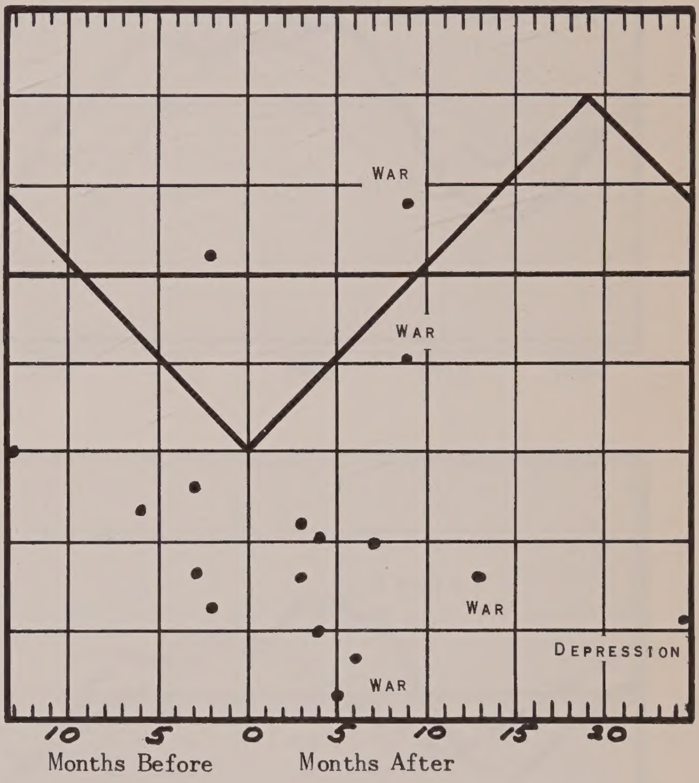
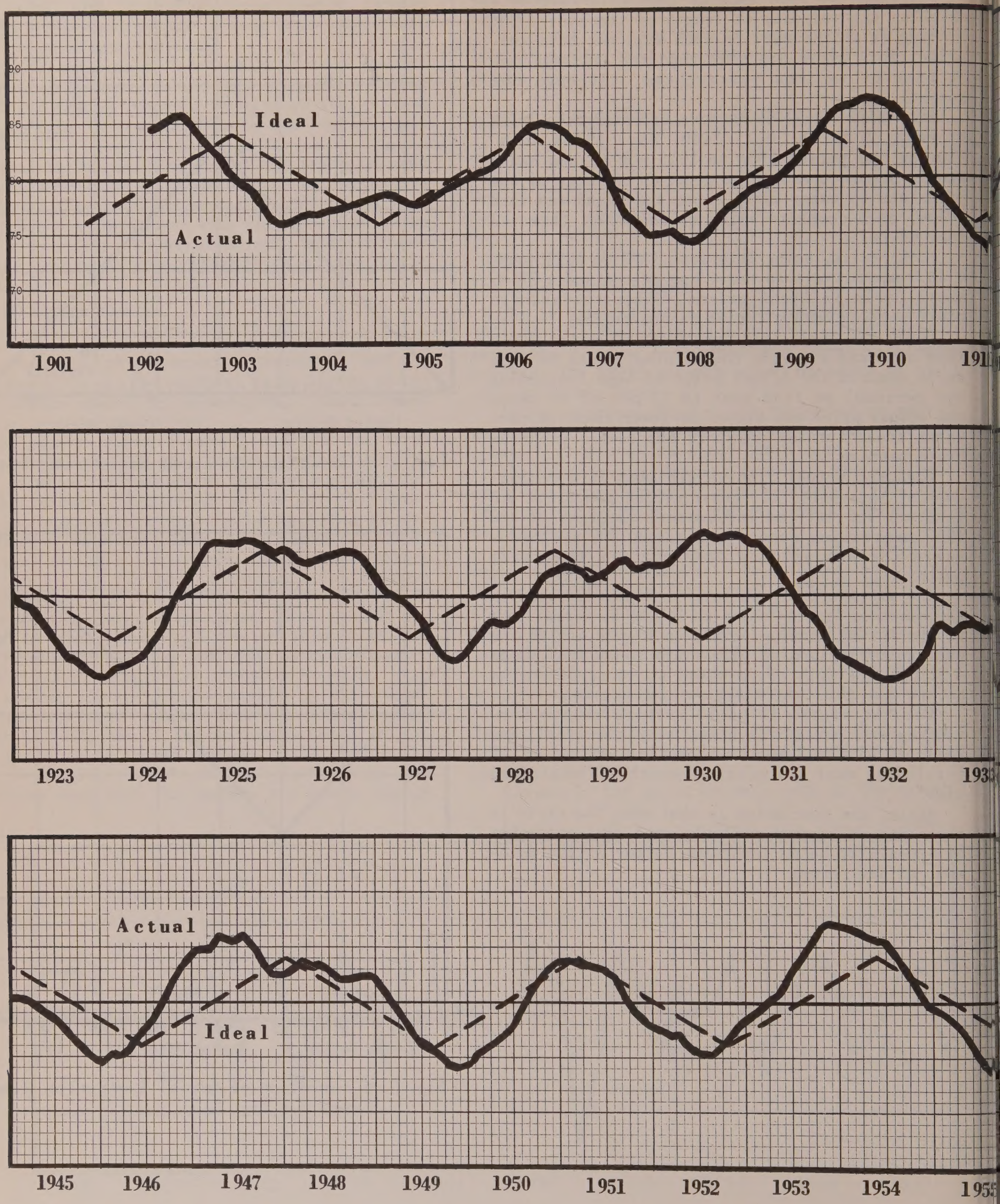
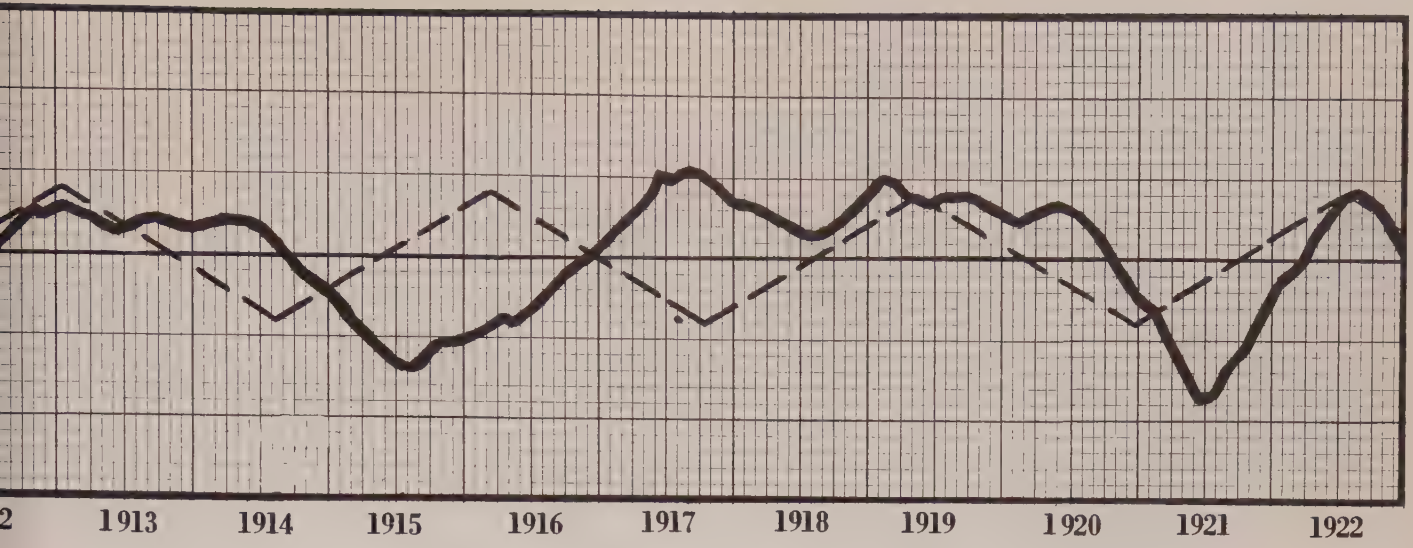


Fig. 5. A comparison of Actual Lows with Ideal Lows (from Fig. 6)

Fig. 6. The 38.2-Month Cycle in Hog Prices (Smoothed)

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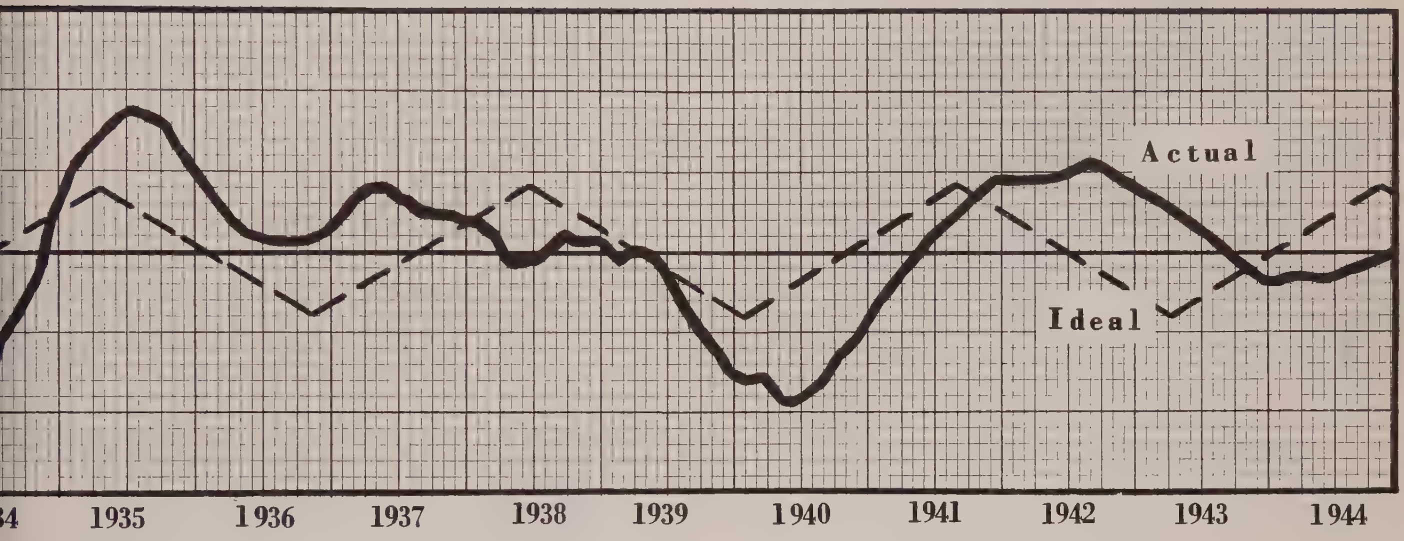
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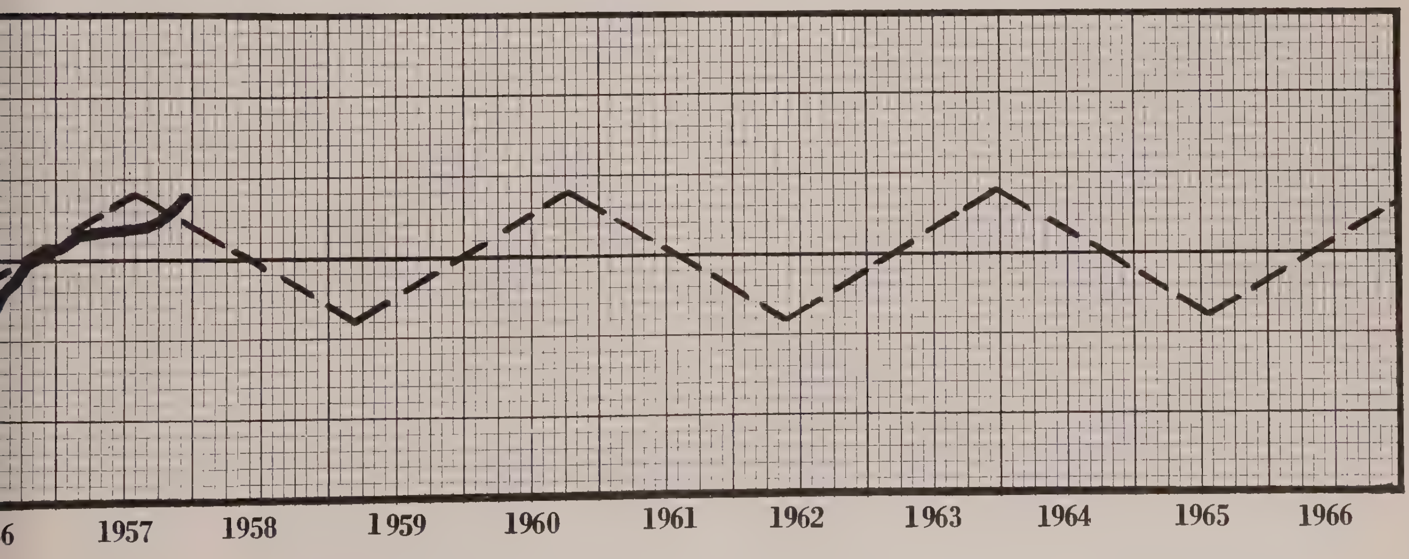
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CYCLES, THE SCIENCE

By Edward R. Dewey

PART III: THE MOON AS A CAUSE OF CYCLES (CONTINUED)

Last month I told you about some of the events on earth that seem to fluctuate in step with the moon.

I wanted to include in that article an account of some important discoveries by the late Dr. W. F. Petersen, but permission to reproduce Dr. Petersen's charts came through so late that I couldn't.

Dr. Petersen was a distinguished Chicago physician and the author of several books. He is one of the few really great men I have known.

Petersen found that many health indexes seemed to go up and down with the phases of the moon. Among them were (1) the Vital Index of the Population, (2) the onset of scarlet fever, and (3) the number of deaths from tuberculosis. He also found that terrestrial magnetism, blood pH, and environmental temperature seemed to behave in the same way.

The Vital Index

The Vital Index of Population is an invention of Dr. Petersen's. It is similar to the monthly ratio of Births to Deaths generally used by vital statisticians except (a) Petersen back-dated births by 280 days to get the presumptive time of conception, and (b) he computed his index on a daily instead of a monthly basis. Petersen's index is therefore not *births* divided by deaths, but *conceptions* divided by deaths. His figures are for Chicago.

When this index for the year 1940 is averaged in sections which are each as long as the cycle of the moon (29½ days), Petersen gets the curve shown in chart 201 below. Fewest conceptions relative to deaths come at the dark of the moon.

Scarlet Fever

During the years 1934 and 1935 there were a large number of scarlet fever cases in Chicago and doctors were required to report the exact date of the onset of the rash. Over 22,000 cases reported for these two years were available for study.

Figure 206 shows the results obtained when the figures were averaged in sections each 29½ days long. The upper curve is for 1934; the middle curve is for 1935; the lower curve shows the cycle for the two year period.

Note that the behaviors are largely opposite for the two years. Petersen calls this behavior merely a "suggestion" of interrelation.

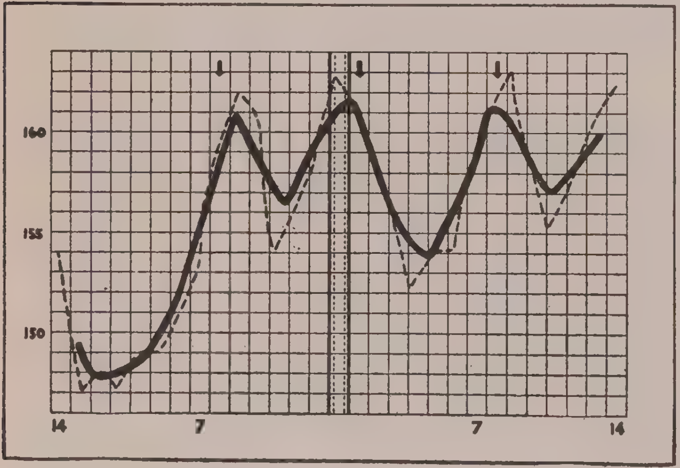


Fig. 201 - Vital Index, 1940, on Lunar Axis, Dashes—day by day. Solid line—3 d.m.a.

From: Petersen, W. F., *Man Weather and Sun.* Courtesy of Charles C. Thomas, Publisher, Springfield, Illinois, Copyright 1947 by Charles C. Thomas, Publisher.

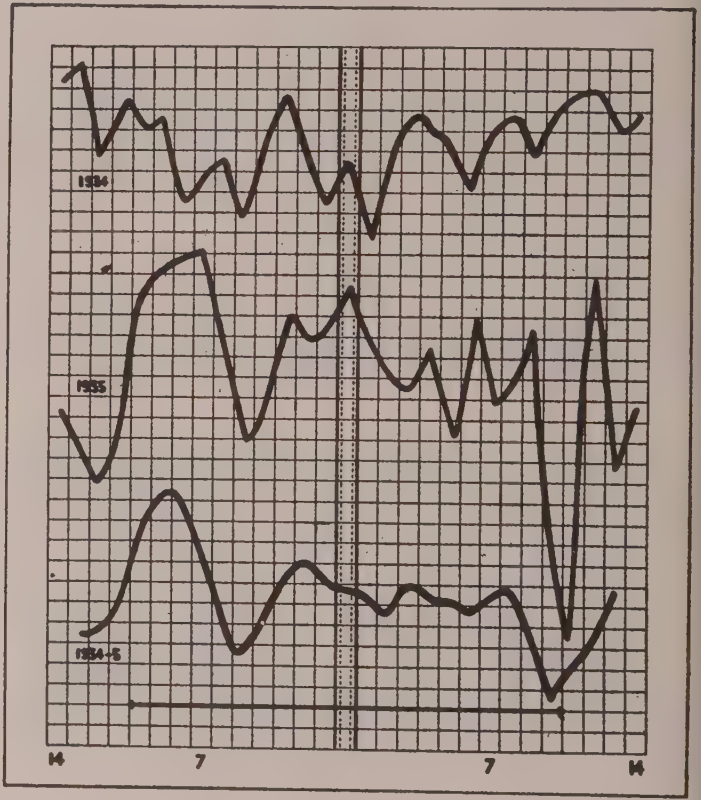


Fig. 206 - Scarlet Fever Onset—Lunar Basis—1934-1935.

From: Petersen, W. F., *Man Weather and Sun.* Courtesy of Charles C. Thomas, Publisher, Springfield, Illinois, Copyright 1947 by Charles C. Thomas, Publisher.

Tuberculosis

Most deaths from tuberculosis in Chicago, 1924-38, came about a week after full moon. This fact is shown by chart 219. I find this chart much more convincing than the chart for the onset of scarlet fever.

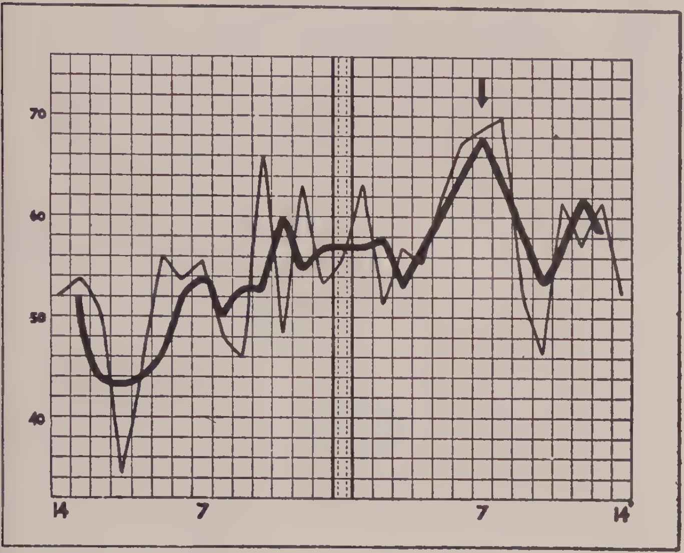


Fig. 219 - Total Male and Female Tuberculosis Deaths on Lunar Axis. 1924-38

From: Petersen, W. F., *Man Weather and Sun.* Courtesy of Charles C. Thomas, Publisher, Springfield, Illinois, Copyright 1947 by Charles C. Thomas, Publisher.

Terrestrial Magnetism, Blood pH, and Temperature

Chart 225, to the right, shows by means of the upper curve the average variations of terrestrial magnetism from new moon to full moon and back to new moon again. The middle curve shows the average variations of the blood p& (a measure of the acidity or alkalinity of the blood) over the same 29½ day cycle. The lower curve shows the average variation of temperature throughout a cycle of the same length.

Petersen's Concern

Petersen's concern was to show that man is influenced by weather. He makes a very good case for his thesis. He is not concerned with lunar cycles as such except as they may be associated with weather and thus with the environment of man.

Summary

I would not say that from Petersen's work it *proved* that there is a lunar (29 day) cycle in terrestrial magnetism, the pH factor, terrestrial temperature, deaths from tuberculosis and the Vital Index, but there certainly is a strong presumption in favor of this idea.

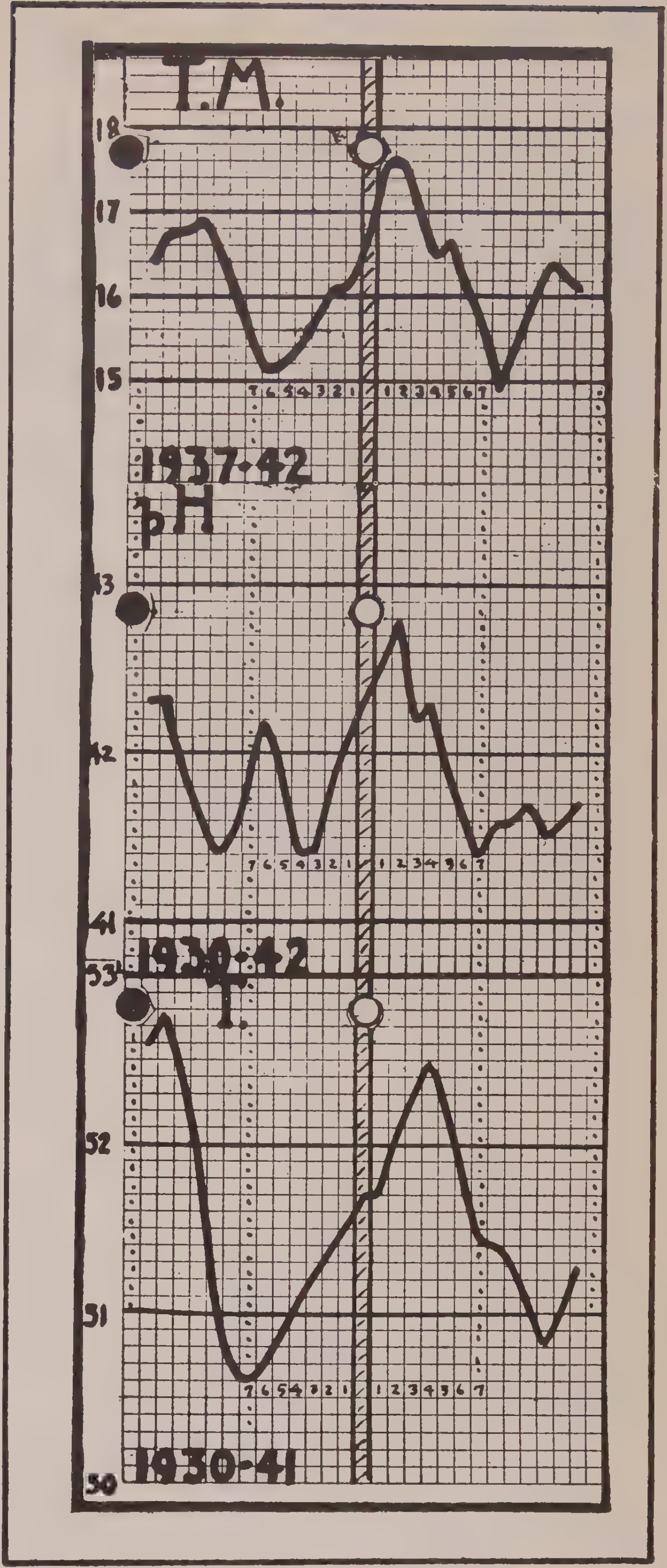


Fig. 225 - Means for Terrestrial Magnetism, Blood pH and Environmental Temperatures. Based on lunar axis.
From: Petersen, W. F., *Man Weather and Sun.* Courtesy of Charles C. Thomas, Publisher, Springfield, Illinois, Copyright 1947 by Charles C. Thomas, Publisher.

The Cycle Workshop

THE MOVING AVERAGE

BY E. R. DEWEY

In previous installments of this series of articles, I have told you how to get hints of rhythmic cycles in a series of figures.

Your next step is to study the cycles of which you got a hint, so as to determine (1) whether to accept or reject it, and (2) in the event you decide to accept it, to determine the shape, strength, timing, and regularity as well as possible.

To study the cycle, the first thing to do is to get rid of the long term trend, and to minimize the longer cycles that may be present in the series.

You do this by expressing the values of your series of figures as percentage of a centered moving average trend of about the same length as the estimated length of your rhythmic cycle.

For example, if you have a hint of a 7-year cycle, you first compute a centered 7-year moving average trend. Then you compute the percentage that each value of the original series is of this trend.

As I am sure you know, a centered 7-year moving average trend is computed by averaging the 1st through the 7th values of your series and posting to the fourth position; averaging the 2nd through the 8th values of your series and posting to the fifth position, etc. thus:

	A	B	C
Year	Series	7-yr. Moving Total	7-yr. Moving Average
1901	10		
1902	12		
1903	14		
1904	12	98	14
1905	16	105	15
1906	16	110	16
1907	18	117	17
1908	17	etc.	etc.
1909	17		
1910	21		
	etc.		

The figures in the stub represent years. The figures in Col. A are assumed to be a few of the values of the series of figures in which you found your 7-year cycle.

The first value posted in Col. B is the sum of 10 + 12 + 14 + 12 + 16 + 16 + 18, the first seven values in Col. A, posted to the fourth position.

The second value posted in Col. B is the sum of 12 + 14 + 12 + 16 + 16 + 18 + 17. In practice it is obtained by subtracting 10 from 98 and then adding 17. It is posted to the fifth position because the fifth position is the middle of the seven values that went into its construction.

The values in Col. C are merely 1/7 of the values in Col. B.

In a 7-year moving average the first three values (in this case for 1901, 1902, 1903) will always be missing. Also, the final three years for which you have data will not have a moving average value. But the final moving average value will include the effect of the last actual figure.

Having computed your moving average you now find the percentage that the original values—the values in Col. A—are of this moving average. These percentages are called "deviations". In the example given these deviations are, for 1904, 12 ÷ 14 x 100 (to express the answer in percentages) = 85.7; for 1905, 16 ÷ 15 x 100 = 106.7; for 1906, 16 ÷ 16 x 100 = 100.

You now chart these deviations and study them in ways that will be discussed in future articles.

If you had found a six year cycle in your original figures you *could* use a 6-year moving average trend, but such a moving average trend would not center exactly. Its center would fall between the third and fourth position.

If you use a six-year moving average trend you must compute a 2-year moving average of the six-year moving average in order to get it centered correctly, thus:

	A	B	C	D	E
Year	Series	6-Year Moving Total	6-Year Moving Average	2-Year Moving Total of 6-Year Moving Average	2-Year Moving Average of 6-Year Moving Average
1901	10				
1902	12				
1903	14	80	13.33		
1904	12	88	14.67	28.00	14.00
1905	16	93	15.50	30.17	15.09
1906	16	96	16.00	31.50	15.75
1907	18	105	17.50	33.50	16.75
1908	17				
1909	17				
1910	21				
	etc.				

In practice one usually uses the nearest odd-term moving average and makes a minor adjustment later according to tables recorded in *Cycle Analysis: The Moving Average*, a small monograph I published some time ago and available in the Spring 1954 issue of the *Journal of Cycle Research* (Vol. 3, No. 2).

Letters to the Editor

WEATHER

Dear Mr. Dewey:

Last night I came across quite an interesting cycle reference which I can not find in your cycle indexes; I want to pass it along to you.

It is from the book, *The Fight for Everest: 1924* by E. F. Norton, published by Longmans, Green & Co., 1925, on page 193:

"(i) *The weather*.--As regards the weather. I hope it may be assumed that the weather met with in May of last year was exceptional; the Darjeeling tea-planters said that for at least twenty years no such weather had been known at this season.

"On the other hand, Odell who was a geologist, as well as climber on the 1924 Everest expedition, when Mallory and Irvine were lost has an interesting paper by a man in Calcutta who has compiled very convincing statistics to show that the weather in India runs in cycles of sixteen years, and that we are now at the bottom of a wave corresponding to a series of wet years; he claims that he foresaw that last year's Expedition was foredoomed to failure, and he says that no new expedition should be undertaken until 1929."

Here is one of the most exotic uses for cycle forecasting that I've run across, as well as a verifiable forecast and possibly new weather cycle length! This is the complete and only reference in this book to cycles; but it would be interesting to check precipitation records for Calcutta from 1925 onward to find out if this forecast worked out or failed.

Missoula, Montana Gardner B. Miller

CYCLES

Dear Mr. Dewey:

Much of the history of scientific development has been the recognition of similarities followed by systematic measurements, cataloguing and charting, as a result of which hypotheses have been developed and experiments conceived, first for testing and then for utilizing the knowledge thus gained. Biology, for instance, for quite a long time was no more than cataloguing the similarities and differences observed. Astronomy, likewise, was cataloguing and charting the positions and cyclical movements of the stars. Only when much exact data had been accumulated did the practical values of the science begin to appear.

The development of techniques for isolating cycles in observed data has provided the basis for an important scientific development; but its value has been clouded by the impatience of people who see a pattern for prediction. Although it undoubtedly has that value, experience has shown that it is not a fixed plan for the future, but a clear indication of dynamic forces which are operating.

For practical use of this information, we need further research as to the probable limits of magnitude of variations in the cycle. For example, we cannot say that the price of a particular stock will reach its maximum on a given date, but it is possible to say that a cyclical *tendency* will peak at a given date, plus or minus some period of probable variation in the cycle.

With further research we can perhaps also determine the probability of occurrence of "transients" which may disturb the smooth recurrence of the cycle (e.g., war or natural catastrophe or failure of some important business venture). Also, research is needed as to the probability that peaks or valleys in different cycles, affecting any given phenomena, will occur at the same time so as to be cumulative, or if out of phase, so as to more or less cancel out.

Another pregnant subject for research is to what extent different branches of science are affected by the same cyclic influences.

The Foundation cannot, and should not, do all of this research itself, but it can stimulate research in the various scientific fields; it can aid research at critical points; it can aid in correlating the results; it can bring work in one field to the attention of those who may correlate it in another field.

New York, New York T. S. S.

MEASLES

Jack Dorland, who is President of the New York Chapter, sent us a clipping from the March 7 issue of the *New York Daily News* which states that there is a 3-year cycle in the outbreak of measles.

According to this article, 1958 was a peak year, and the next peak will probably occur in 1961. Of course the measles are always with us, but there are about 60% more cases in the peak years than in the other years. This information comes from a column by Dr. Theodore R. Van Dellen.

RADIO WAVES

Another member sends us information about the work of a group of scientists who have discovered that a variety of both living and non-living substances can be oriented when subjected to pulsed radio frequencies.

Dr. John H. Heller, Dr. A. A. Teixeira-Pinto, and Dr. John L. Cutler, working at the New England Institute for Medical Research in Ridgefield, Connecticut, found that radio frequencies evidently affect structure inside cells.

Signals in the range between 5 and 40 megacycles were used. When the growing root tip of a garlic plant, for instance, was subjected to radio waves of about 27 megacycles frequency, abnormal cells were created, and others died.

Furthermore, the scientists were able to produce a predictable effect. Randomly swimming groups of Euglena (tiny cigar-shaped organisms) can be made to swim together in an east-west direction, and then made to suddenly flip to a north-south direction by a change in frequency.

At present there is no explanation for the phenomena that have been observed, except that it is possible that particles under an impressed radio frequency may tend to line up so that there is a minimal distortion of the field.

ALUMINUM

Dear Mr. Dewey:

May I say first that I am an enthusiastic reader of *Cycles* and have been for some years.

I am finding some difficulty reconciling some of the data on the aluminum production cycle as covered in the March 1958 and other issues. On page 85 you list the years 1957 to 1962 and indicate the percentage above or below the prior year. I assume this is the percentage by which the production would be above, or below the prior year's production assuming the ideal cycle superimposed on the basic trend. If so the cycle as shown on page 83 indicates that expected production in 1958 should be less than in 1957 instead of 5% above as per the table on page 85.

What am I missing?

Ottawa, Canada R. F. Errington

Comment: The difficulty arises because the article does not make clear that two different approaches to the problem were discussed.

First: The deviations of the data from a 9-year geometric moving average were used. An ideal cycle was derived from these data, and then superimposed on the underlying trend. This technique was used to obtain what is referred to as the "6.4-year cycle." To get figures to use, the trend has to be projected by ear, as it were, and in this case, some flattening was introduced. The result of combining the ideal 6.4-year cycle and the somewhat slackened trend are diagrammed on the chart on page 83. This is the chart we have since used in the Round-Up. It may be that we flattened the trend too much.

Second: One-year moving percentage changes of the original data were computed. The result of averaging these percentages (in 6.4-year sections) is given in the figures at the top of the column on page 85. In this approach the trend is not treated as a separate subject, but is buried in the result at an average past rate. This second approach was added as an aside.

Obviously, the article should have made a more pronounced distinction between the two methods.

G. S.

Chapter Affairs

NEW YORK AUGUST MEETING

The regular monthly dinner-meeting was held on Tuesday, August 18. The program was "Cycles in Commodity Prices: A Panel Discussion." The moderator was Lcdr. David Williams, Manager of Cable Purchases, Consolidated Edison Company, and Vice President of the Chapter. Panelists included E. R. Gotthelf, Publisher, Commodity Futures Forecast; F. R. Hoisington, Economist, Hayden, Stone & Company; and Paul H. Halladin, Registered Representative for a Wall Street brokerage, and Treasurer of the Chapter.

Mr. Gotthelf described a system for trading in commodities known as "Commodex." An interesting characteristic of the technique, he alleged, is the automatic appearance of daily and trend signals for purchase and sale. The fundamental parts used in the system are price, volume and open interest.

Mr. Hoisington compared the cyclical fluctuations of the spot price of zinc with those of the Industrial Production Index during the last forty years. He found the correlation good and asserted that many use the Index as a barometer for the price of zinc. Others, he said, consider the price of zinc as a general business indicator.

Mr. Halladin spoke of his search during recent years for a correlation between commodity prices and tidal and lunar cycles. He demonstrated a remarkable correlation between the cycles of the daily variations in tide and the price of Chicago rye during the first three quarters of 1958. But no parallel action appeared in the last quarter. His conclusion was that there are too many variables for an index of emotion to be used as a sole trading device.

Lcdr. Williams, in briefly reviewing the talks, stressed that cycles are a tool to be used with discretion. Lcdr. Williams made several observations on the current copper market. He thought that as long as a strike threat exists, higher copper prices may be expected. World trend and U.S. trend in copper production are flattening out. Stable production and increased demand as the standard of living of the world rises, will push up copper prices over the long term, although there will be interruptions in the rise.

Harry Bogaty

The Cycle Round-up

OCTOBER 1959

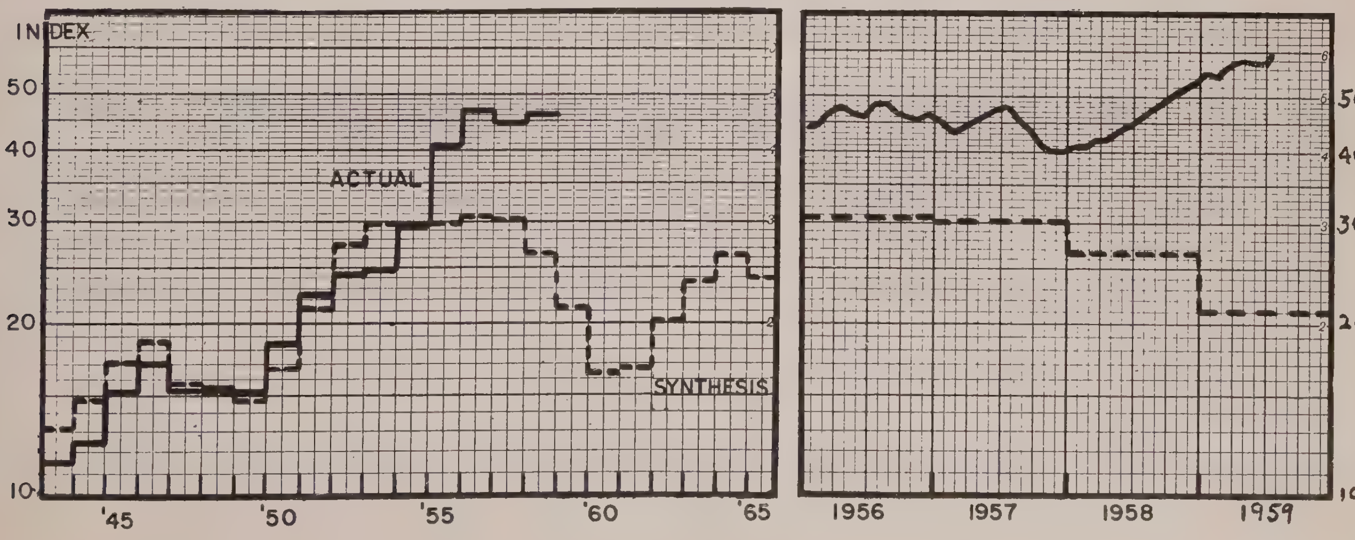
For those of you who are following any of the series we review from time to time in this section, the recent figures are reported below.

LATE FIGURES

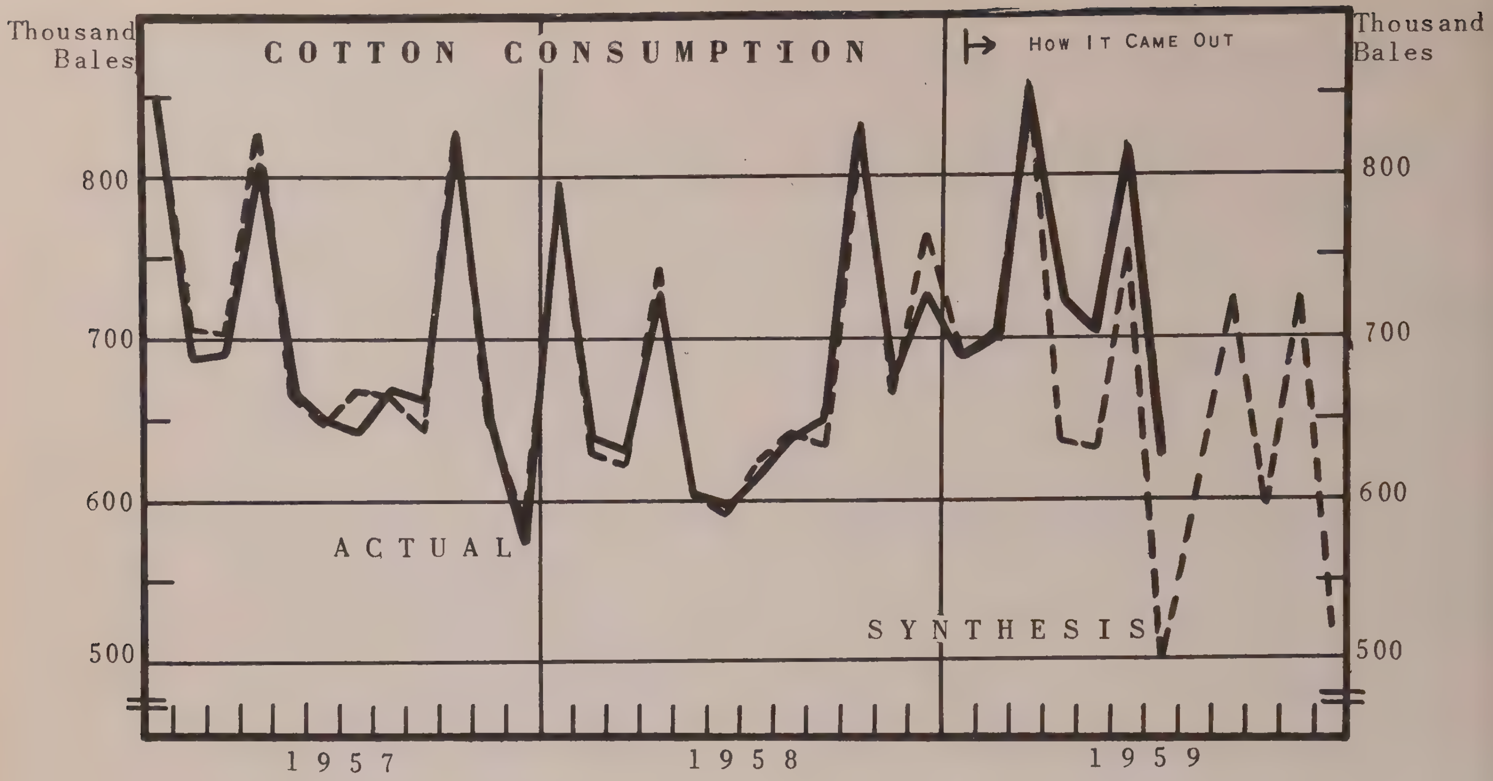
Series	Unit	Month	Amount
Aluminum Production	Thousand tons	June	167
Automobile Factory Sales	Thousand cars	June July	555r 556p
Bond Yields--Moody's - Domestic Corporate	Per cent	July	4.72
Copper Prices--Electrolytic, New York	Cents per pound	July	30.08
Corn Prices--#3 Yellow, Chicago	Cents per bushel	July	126.5
Cotton Consumption	Thousand bales	July	650
Liabilities of Business Failures	Million dollars	July	51.2
Oats Prices--#3 White, Chicago	Cents per bushel	July	70.1
Stock Prices--Standard & Poor's Combined Index	1941-43=10	July	59.74
Sunspot Numbers	Numbers	July	149
Wheat Prices--#1 D N S, Minneapolis	Cents per bushel	July	229.5
Unemployment	Per cent	July	5.25

p - preliminary; r - revised

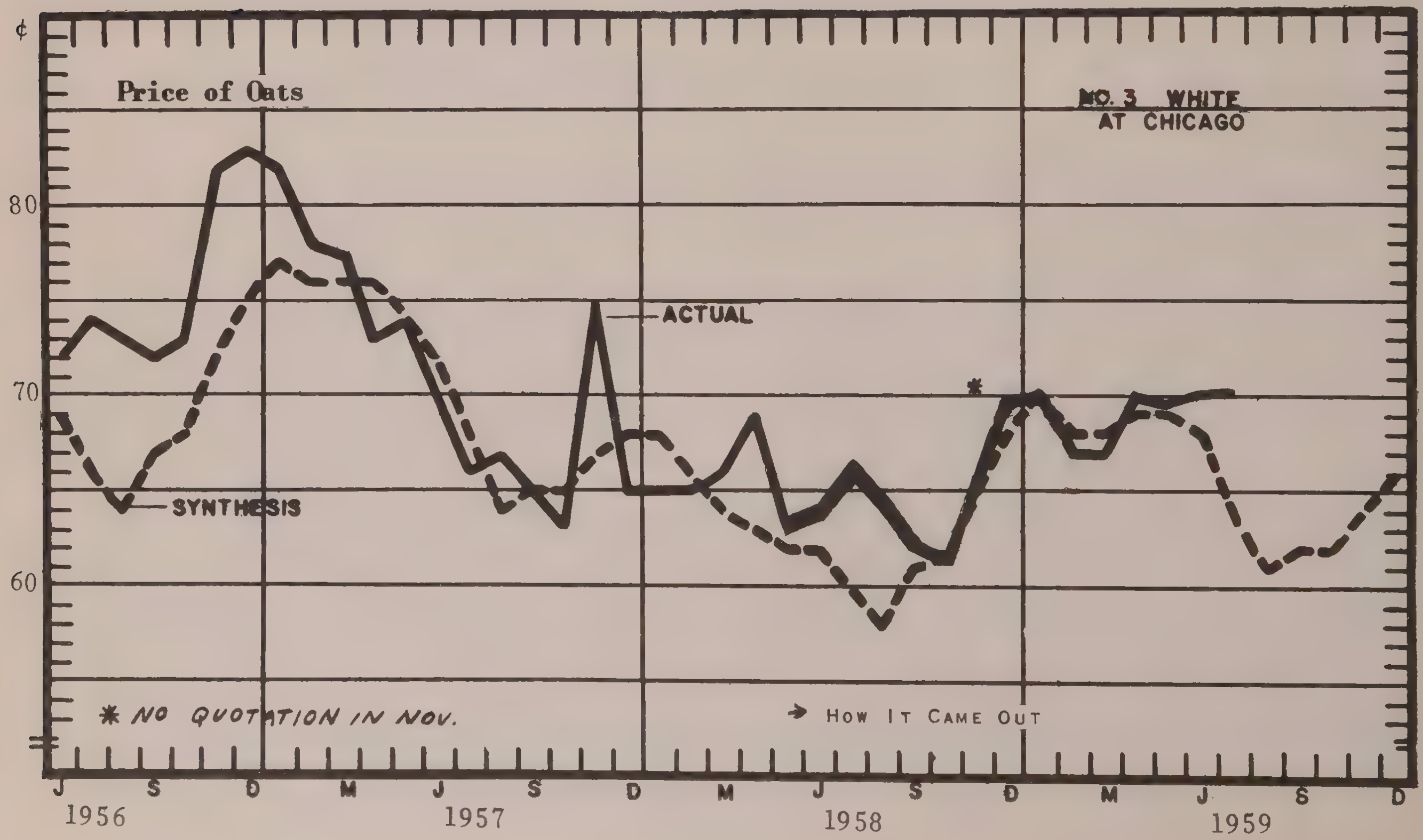
STOCK PRICES



COTTON CONSUMPTION



OATS PRICES



RESIDENTIAL BUILDING

Our synthesis of the valuation of residential construction contracts includes three factors, the 32.3-month cycle, the 12-month cycle and the underlying trend.

The 32.3-month cycle has a low scheduled to occur ideally at July of this year.

Now that figures for the first six months of 1959 are available, it is apparent that the data are not moving with the ideal cycle at this particular turning point. This miss makes two times out of 12 lows that the cycle has not operated, or has been so obsured by other factors that it does not appear to be operating.

The fact is that the value of residential construction contracts let has soared since the first of the year. In June, $1,762 million worth of contracts were let.

It therefore becomes necessary at this point to revise the underlying trend, and to shift the entire level of the synthesis upward so that it is more realistic.

For a review of the process by which this is accomplished, see the story on the next two pages on the revision of the underlying trend in egg prices.

In both these cases it should be understood that the word "trend" is being used loosely. A more correct designation would be "the direction in which the residual is moving." The residual is what is left when any known waves are removed from the data.

When we attempt to translate cycle knowledge into practical terms, we create several additional problems, not the least of which is that the residual must be constantly watched. Any divergance that develops must be corrected.

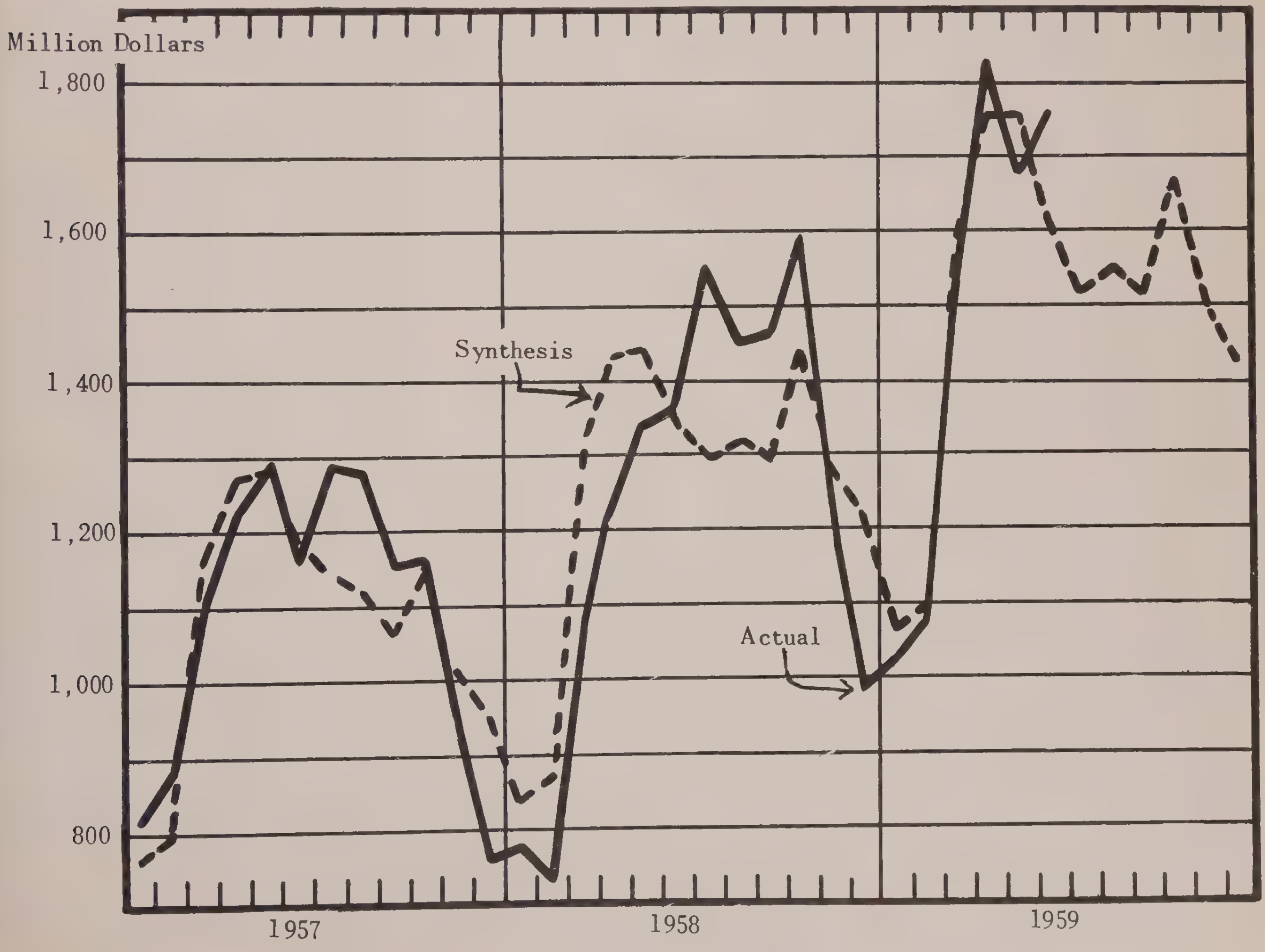
As the figures are actually developing, the yearly total for 1959 may exceed 1958.

The chart below diagrams the revised synthesis with a broken line. The actual figures are recorded by the solid line.

In this particular type of extension into the future what ordinarily happens is that one over-corrects.

It may well be that the level of the synthesis line for the latter months of 1959 is too high.

From our point of view the interesting fact here is that the actual figures went up at a time when the 32.3-month cycle had a low. Another point to investigate!



EGG PRICES

A member asked if we would take the synthesis line of egg prices to 1965. The wording of our answer was not so blunt, but in essence we told him "No, we could not." No rudeness or lack of consideration for the member's wishes was intended.

His question did raise a point that may have puzzled others, and a practical demonstration of the difficulties of such an extension seems in order. In addition, the egg chart we have been using in the Round-Up runs only through 1959 and it's about time to take the extension at least through 1960, and to review the underlying trend.

The chart of egg prices which we have been using was drawn in March 1958. Three factors were included in the synthesis line. They were the seasonal cycle, the 26.5-month cycle, and the underlying trend.

To obtain the underlying trend, the two cycles were removed from the data and a moving average trend of the residual computed. Figure 1 below is a partial drawing of this step of the work. The solid line is a drawing of prices after the two cycles have been removed. The broken line is the trend.

You will observe that the last actual value of the trend was at February 1957. From that point forward the trend was simply "made up".

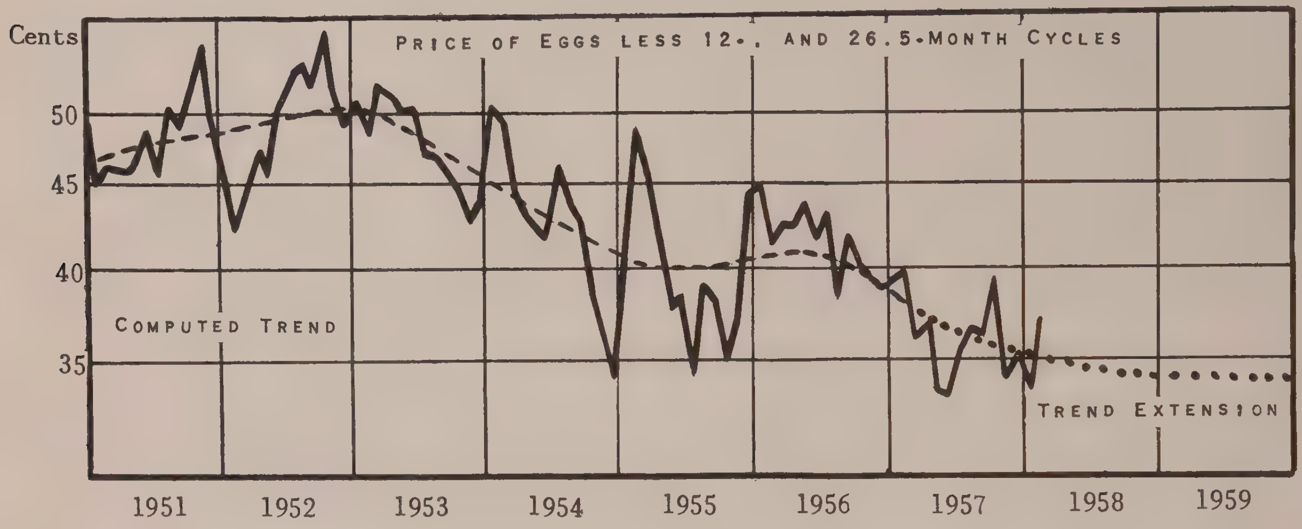


Fig.1 The Trend of the Price of Eggs, March 1958.

The extrapolation (as an imaginary extension is called) is marked by dots. At that time we extended the trend line through 1959. 1965 would be more than 3 inches out to the right of the chart. Because we had no knowledge of the longer cycles in the series, or any of the other necessary facts, we simply could not guess at what level the trend would be by 1965.

It was this extended trend to which we added the cycles and upon which the general area of the price level of the synthesis depended.

Figure 1 above has been extended now by the addition of 17 months of actual data. The cycles have been removed from these new data and the trend re-considered The new data and trend are shown on Figure 2.

Figure 1 above is exactly as it was used in 1958. Figure 2 repeats Figure 1 from 1956 forward and adds the new data.

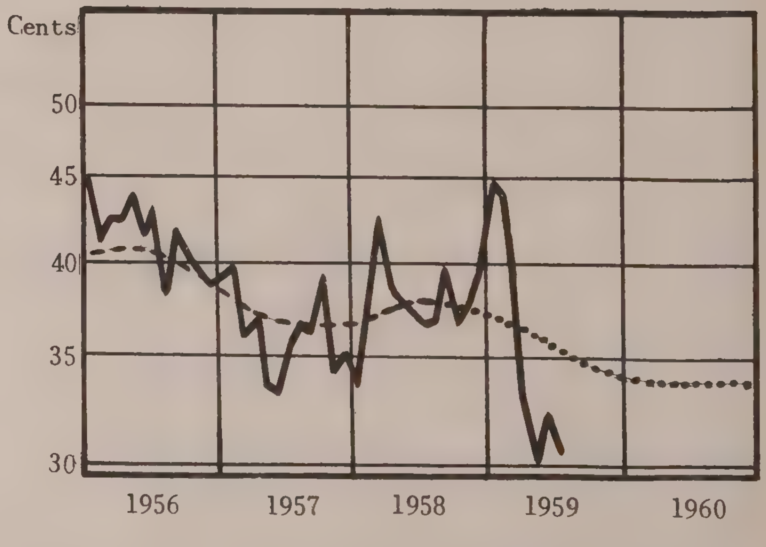


Fig.2 The Trend of the Price of Eggs, August 1959.

On Figure 1 the trend over the year 1958 was expected to dip below the 35 cent line. This did not happen; the trend swung up in 1958. As a result, the actual line as it developed began to pull away from the original synthesis line, although the contour of the two lines was similar.

If we had used any important long term cycles in the work it would help in extending the line into the future, but the two cycles used are very short.

The revised trend is combined with the two cycles, and the result is the revised synthesis shown by the broken line on Figure 3. The actual price of eggs is shown by the solid line.

Since the original work on this series was done, the basis for reporting these figures has been changed from f. o. b. to delivered, but the discrepancy does not appear to be serious.

The price of eggs, wholesale, extras, large, at Chicago was 29.1 cents per dozen in July.

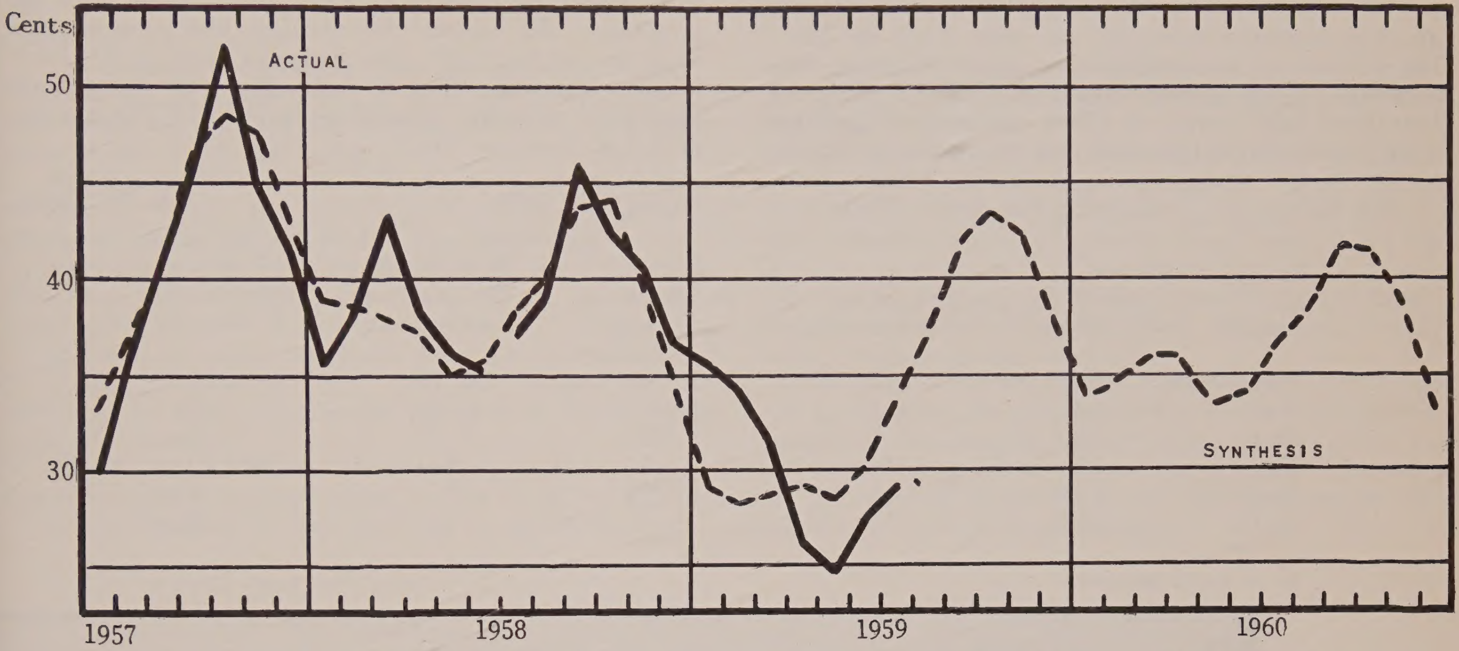


Fig. 3 The Actual Price of Eggs Compared with the Synthesis. (The Combination of the 12- and 26.5-Month Cycles and the August 1959 Trend.)

We can extend the combined cycles without any consideration for trend indefinitely into the future. In this case, however, the figures are in per cent of trend, and not cents per dozen.

Figure 4 shows the combined 12- and 26.5-month cycles from 1956 through 1965.

Here for June, 1965, the combined cycles are 85% of trend. If you think trend at that point will be 30 cents, then the projected price would be 25.5 cents. But if you should guess the trend will be 40 cents then the price would be 34 cents.

The difficulty of guessing what trend will be inhibits us from projecting the synthesis line far into the future.

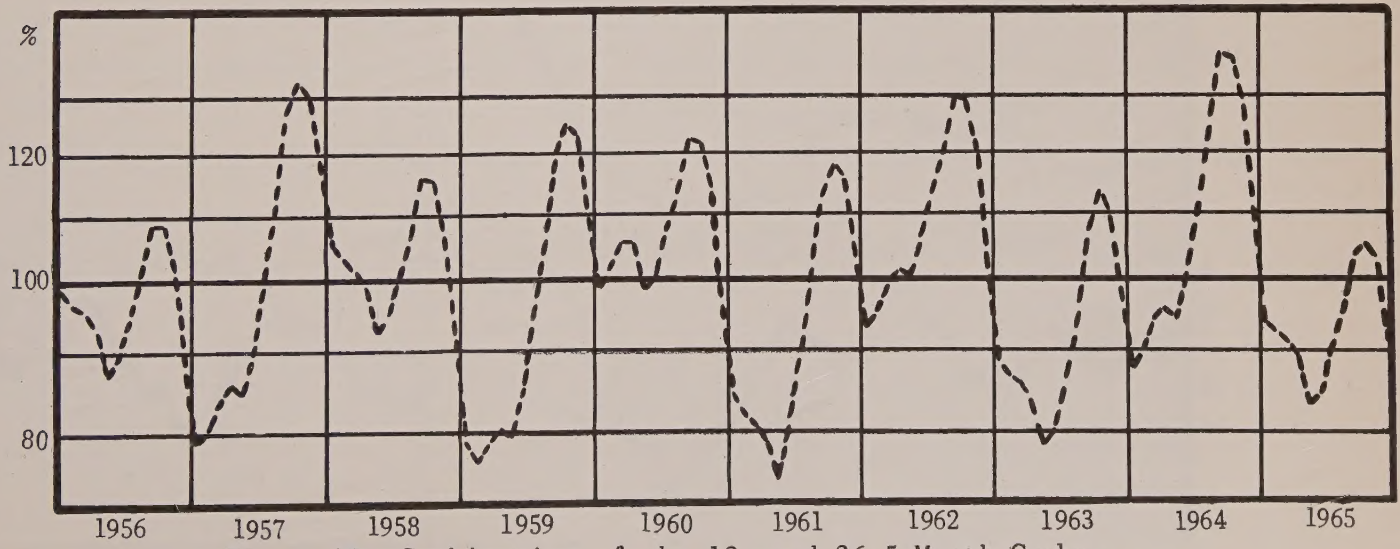


Fig. 4 The Combination of the 12- and 26.5-Month Cycles.

The Geisinger Indicator

FORECAST

Despite the steel strike, business in general continued good in July. In addition, the outlook for the future, based on the Geisinger Indicator, but ignoring the effect of the steel strike, continues to be encouraging.

In July, the Federal Reserve Board's seasonally adjusted Index of Production slid to 153, a drop of only 2 points from the all-time high of June. The effect of the strike was great in some components of the Index (steel and coal), but the continued high level of other components (particularly non-durables reduced the effect of the strike in the total.

The Geisinger Indicator for April (December when advanced) went up to 4.60.

The First Difference Indicator went down to 1.83 for June.

The Modified Geisinger Indicator went up to 7.10 in April (December when advanced).

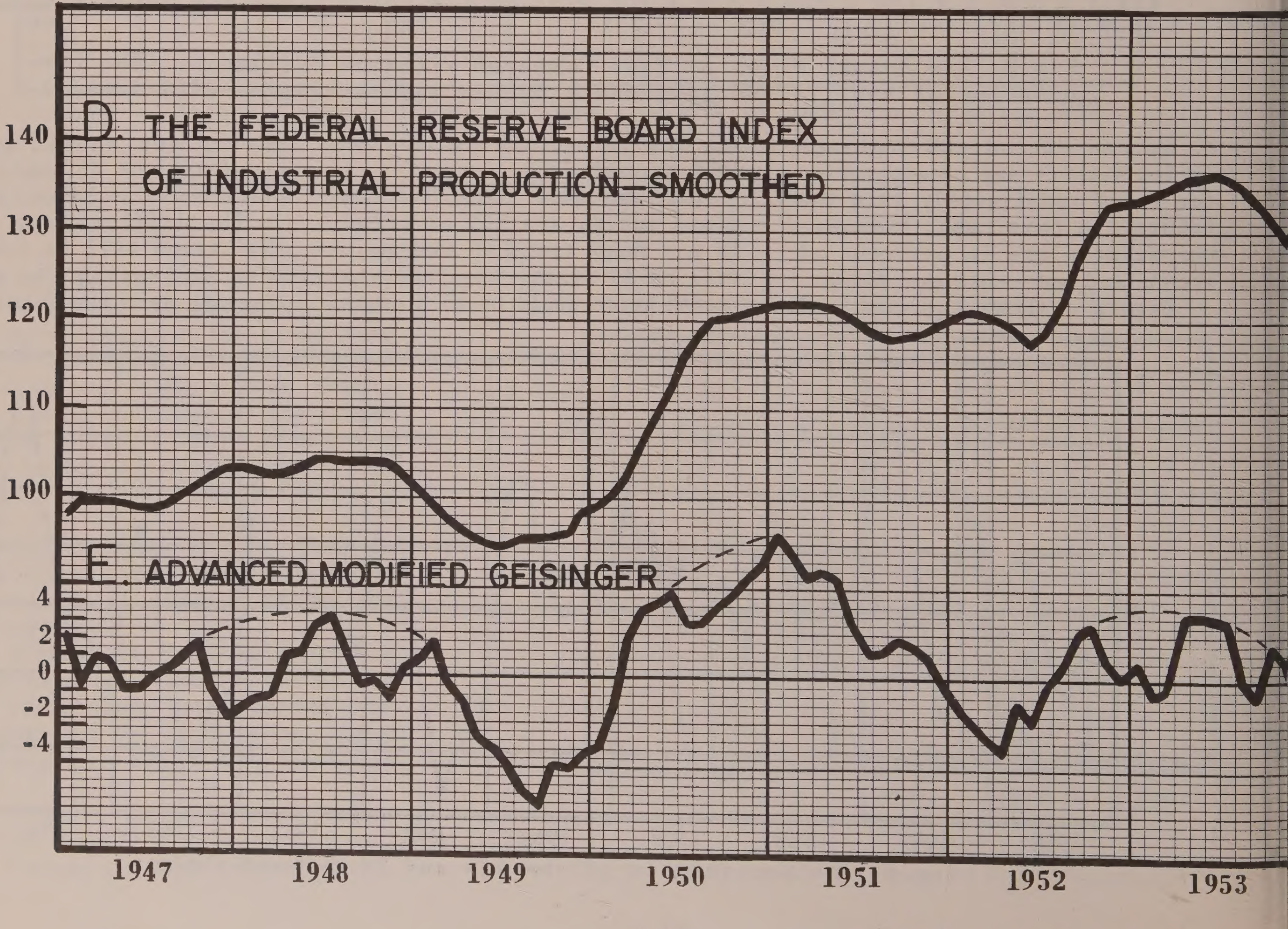
Although the Indicators suggest a continued high level of business, this conclusion must be modified. The longer the strike, the greater the drop in production. The drop in August will be greater than the drop in July. But the Indicators hint that recovery should be quick, if the strike does not last too long.

August 26, 1959 E. R. Dewey

Month	F.R.B. Index	Geisinger Indicator	First Difference Indicator	Modified Geisinger Indicator	Timing Advanced 8 Months
Feb-1959	145	3.2	1.50	4.70	1959-Oct
Mar	147	4.2	2.00	6.20	Nov
Apr	150	4.6	2.50	7.10	Dec
May	153	*	2.67	*	1960-Jan
June	155	*	1.83p	*	Feb
July	153p	*	*	*	Mar

p - preliminary

* - not yet available



BACKGROUND

Explanation

The Modified Geisinger Indicator is an index which, in the past, has usually gone up and down ahead of the Federal Reserve Board Index of Industrial Production. The Modified Geisinger Indicator thus throws some light on the future.

The Modified Geisinger Indicator is the sum of the Geisinger Indicator and The First Difference Indicator.

The Geisinger Indicator was invented by Robert Geisinger. It is derived from figures which are published monthly in the **Survey of Current Business.** (Col. 2 of the table.)

The First Difference Indicator, is merely the amount by which the smoothed F. R. B. Index is above or below the value for the preceding month. It registers the *rate* of advance or decline. It has some forecasting value, too. (Col. 3 of the table.)

The sum of these two Indicators is the *Modified* Geisinger Indicator. (Col. 4 of the Table.) It is advanced by eight months and plotted as the bottom line of the chart.

The F. R. B. Index of Industrial Production measures physical production in the U. S. A. (Col. 1 of the Table.) It has nothing to do with stock prices.

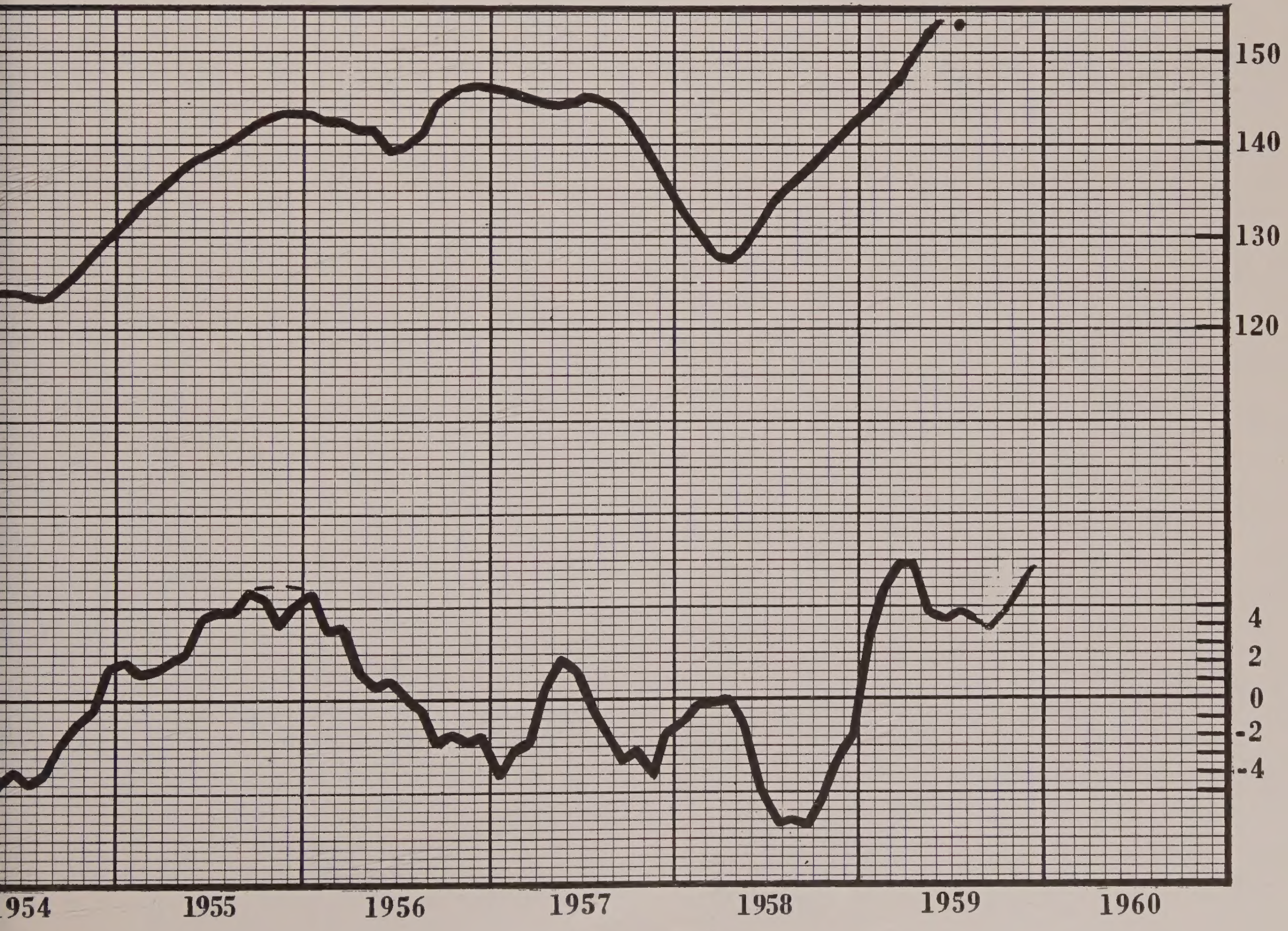
The smoothed values of the F. R. B. Index are plotted as the top line on the chart. It is smoothed by a 3-month moving average posted to the second position. The latest actual monthly Index of Production is recorded by a dot.

Interpretation

In the past, when the *Geisinger* Indicator going up, has cut 2, good business has followed; when, going down, it has cut 2, bad business has followed.

The important *turns* of the *Geisinger* Indicator and the *Modified* Geisinger Indicator often come 8 or 9 months before corresponding turns in Industrial Production. This fact gives some idea of what is around the corner. To help you to grope your way into tomorrow the Modified Geisinger Indicator is advanced 8 months. Where it is now, Industrial Production may soon be.

The degree to which the two curves correspond can be seen by inspection of the chart. The correspondence is general rather than specific. It is the broad sweep of the lines which is to be watched. The dashed lines which are added show how the eye should follow the Indicator.



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